

# **BLINDS COATED WITH PHOTO CATALYST**

## **FIELD OF THE INVENTION**

The present invention relates to blinds and particularly to a blind coated with photo catalyst.

## **5 BACKGROUND OF THE INVENTION**

In recent years, due to destroying of ozone layer in the atmosphere, worldwide temperature increases continuously. These days modern houses and offices, aside from having air conditioning, window coverings (such as blinds) also are  
10 widely used to prevent high temperature from directly projecting into the rooms so that the performance of air conditioning may be improved. For countries situated in the subtropical area that has island type weather, the climate temperature is usually high and the air is often humid. Germs  
15 breed easily. As a result, illness such as asthma, allergic rhinitis, and skin diseases tend to infest frequently. The crowded living environment also produces severe air pollution. In a closed environment, the quality of circulated air is very poor due to the organic materials contained in the window  
20 coverings (such as blinds).

Moreover, at present the window coverings (such as blinds) are mostly being used to block sunshine. There is no much added value. How to increase the value of the window coverings such as automatically cleaning the air, disinfecting,  
25 contamination preventing and deodorizing to improve the

quality of air and environment has become a critical issue.

### **SUMMARY OF THE INVENTION**

The primary object of the invention is to resolve the aforesaid disadvantages and eliminate the drawbacks occurred to the prior art.

5 The invention provides a blind that has a protective layer coating on the slats of the blind. The protective layer can decompose and eliminate harmful organic substances around the slats to improve air quality.

The foregoing, as well as additional objects, features  
10 and advantages of the invention will be more readily apparent from the following detailed description, which proceeds with reference to the accompanying drawings.

### **BRIEF DESCRIPTION OF THE DRAWINGS**

FIG. 1 is a schematic view of the present invention before  
15 coating photo catalyst.

FIG. 2 is another schematic view of the present invention before coating photo catalyst.

FIG.3 is a schematic view of the present invention after coating photo catalyst.

20 FIG.4 is a diagram of the invention showing reaction of the photo catalyst.

### **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT**

Please refer to FIGS. 1, 2 and 3 for the present invention  
25 before and after coating photo catalyst.

The blind according to the invention mainly includes slats  
11 which are coated with photo catalyst 10 by spraying or  
plating to form a protective layer 20.

The photo catalyst is made from a compound and oxide  
5 such as Titanium Dioxide ( $\text{TiO}_2$ ) in the nanometer degree that  
has a strong oxidized reduction power and is chemically stable  
and toxic-free.

Upon the surface of the Titanium Dioxide ( $\text{TiO}_2$ ) of  
nanometer degree being projected by ultraviolet light, the  
10 electrons on the surface that have received enough energy can  
escape from the surface and the surface forms a positive hole  
carrying a positive charge. The positive hole has a strong  
oxidation power and can snatch electrons from a charged  
ionized radical in the moisture of the air. When the electrons  
15 in the ionized radical are taken away, the ionized radical  
becomes a unstable free radical. When the unstable free  
radical encounters an organic substance in the environment, it  
can capture electrons from the surface of the organic  
substance to become stable again. When the organic substance  
20 loses electrons, it breaks apart and vanishes in the air.

Based on the technique set forth above, the window  
covering (such as blinds) can be made with more added value.  
Aside from blocking sunshine, it also can provide functions  
such as automatically cleaning air, disinfecting, contamination  
25 preventing and deodorizing. The technique employed in the

invention is to coat by spraying or plating photo catalyst 10 made from Titanium Dioxide ( $\text{TiO}_2$ ) of nanometer degree on the surface of the slats 11 of the blind to form a protective layer 20. When the protective layer 20 receives external light  
5 projection (such as ultraviolet light), the "free radical" decomposes and absorbs the organic substances in the air (such as carbon oxide, sulphur oxide, ammonia, sulphur, acetaldehyde generated by germs, contaminated objects and ozone). Thus toxic chemical substances in the air may be  
10 eliminated. As a result, the slats 11 of the blind of the invention can automatically remove the toxic materials in the air and improve air quality in the environment.